

CALIBRATION TECHNIQUE FOR COINCIDENCE IMAGING SYSTEMS

Abstract of the Disclosure

5 An imaging method using a plurality of radiation
detectors (12) is disclosed. A plurality of coincidence
radiation events are measured (60) associated with a point
radiation source (18). Initial values are assigned (62)
for fitting parameters. Lines of response (LOR) are
10 calculated (64) based upon the fitting parameters and the
measured radiation events. A figure of merit is generated
(66) that characterizes the apparent size of the point
radiation source based upon the LOR's. The fitting
parameters are optimized (70) using a minimization
15 algorithm which includes iteratively repeating the
calculating (64) and generating (66) steps to produce a
minimized figure of merit. Correction factors are
extracted from the optimized fitting parameters (72). A
set of radiation data is acquired from an associated
20 subject. The radiation data is corrected for mechanical
camera misalignment by correcting the spatial coordinates
of the detected radiation events using the correction
factors. An image representation is reconstructed from
the corrected radiation data.